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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/626,496	07/24/2003	Damian G. Bonicatto	11838.0058-US-01	1984
23552	7590	12/31/2008		
MERCHANT & GOULD PC P.O. BOX 2903 MINNEAPOLIS, MN 55402-0903			EXAMINER WONG, XAVIER S	
			ART UNIT 2416	PAPER NUMBER
			MAIL DATE 12/31/2008	DELIVERY MODE PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/626,496

Applicant(s)

BONICATTO ET AL.

Examiner

Xavier Szewai Wong

Art Unit

2416

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 16th October 2008.
2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-6 is/are pending in the application.
4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5) ☐ Claim(s) _____ is/are allowed.
6) ☒ Claim(s) 1-6 is/are rejected.
7) ☐ Claim(s) _____ is/are objected to.
8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-946)
3) ☐ Information Disclosure Statement(s) (PTO/SF/ICE)
Paper No(s)/Mail Date _____
4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____

DETAILED ACTION

Response to Arguments

Applicant's arguments with respect to claim **1** have been considered but are not persuasive.

Applicant argues that neither **Ouellette** nor **Grindahl** teach:

i. "transmitting a find endpoint data packet onto the power distribution network"

(Remarks: pg. 2 last paragraph);

ii. "a substation circuit [coupled to a power distribution line] ... to transmit a find endpoint data packet onto the power distribution network" (Remarks: pg. 3 first paragraph); and,

iii. "mapping a unique ID for an endpoint to a base frequency and transmitting the find endpoint data packet onto the power line, the find endpoint packet including the unique ID and the base frequency" (Remarks: pg. 5 lines 4-6).

i. **Ouellette** teaches "transmitting a find endpoint data packet onto the power distribution network" by pointing out metering devices to track source and destination addresses/IDs in a "find endpoint" packet shown in figure 5 items 30a/b (see: col. 8 ln. 62-67; col. 9 ln. 3-10) since the source and destination address are known.

ii. **Ouellette** teaches "a substation circuit [coupled to a power distribution line] ... to transmit a find endpoint data packet onto the power distribution network" by pointing out the *concept* of mobile nodes 12 & 22 (as substations) coupled to power lines in the system (see col. 4 ln. 32-37: mobile node which is coupled via power lines to a respective one of the plurality of distribution transformers; fig. 2 items 12, 17 & 22); the substations (mobile node portion) comprise a circuit/microprocessor 32 as shown in figure 3 that translates radio frequency signals in a

band(width) bi-directionally with the metering devices to track source and destination addresses/I.Ds in a “find endpoint” packet shown in figure 5 items 30a/b (see col. 7 ln. 27-30 & 59-67; mobile node retransmitting signals... bidirectional communication; col. 8 ln. 62-67; source and destination (endpoint) address fields; col. 9 ln. 3-10: a destination address of the device).

iii. Grindahl teaches “mapping a unique ID for an endpoint to a base frequency and transmitting the find endpoint data packet onto the power line, the find endpoint packet including the unique ID and the base frequency” by pointing out a transponder that transmits RF activation signals in the form of a tone modulated onto a carrier (wave) (see col. 5 lines 14-24: transponder transmits RF signals which includes parameter and identification data; fig. 5); information packet signals are transmitted at pseudorandom frequency bandwidth (base freq.) as a Manchester encoded (string unique for each meter) bit stream (see col. 3 ln. 15-25: this is a mapping step since “instrument identification field... to produce a transponder information packet formed by a but stream of data sequence” to a *particular* instrument) including an instrument identification field corresponding to each meter (see col. 3 ln. 48-51; col. 7 lines 1-9: this is an assigning step since “instrument identification field ... identifying particular meter”).

Claim Rejections - 35 USC § 103

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claim 1 is rejected under 35 U.S.C. 103(a) as being unpatentable over **Ouellette (U.S. Pat 5,495,239)** in view of **Grindahl et al (U.S. Pat 4,799,059)**.

Consider claim 1, **Ouellette** discloses a bi-directional communication system within an electrical power distribution system (col. 7 ln. 61-64; abstract) that connects endpoints (metering

devices 16) that comprise transceivers and connects to a power distribution line 17 (col. 6 ln. 21-23; col. 8 ln. 50-51; fig. 2 items 16 & 17); the endpoints are identified by a predetermined address/unique I.D (col. 9 ln. 1-5) in the power distribution system comprising: transformers + mobile nodes 12 & 22 (as substations) coupled to power lines 17 in the system (col. 4 ln. 32-37; fig. 2 items 12, 17 & 22); the substations (mobile node portion) comprise a circuit/microprocessor 32 as shown in figure 3 that translates radio frequency signals in a band(width) bi-directionally with the metering devices to track source and destination addresses/I.Ds in a “find endpoint” packet shown in figure 5 items 30a/b (col. 3 ln. 23-25; col. 7 ln. 59-67; col. 8 ln. 62-67; col. 9 ln. 3-10); the substation mobile node portion acts as a “passthrough” for any incoming metering devices frequency signals (therefore, indicating a receiving status in a frequency bandwidth), then translates (status assignment) the frequency signals for sending (col. 3 ln. 23-25; col. 7 ln. 27-39; col. 8 ln. 2-8). However, **Ouellette** does not explicitly mention “mapping or assigning unique ID to a base frequency and a status indicating that the substation transceiver is receiving signals in the frequency bandwidth.” **Grindahl et al** disclose in the abstract an automatic/remote instrument (meter) monitoring device for electricity consumption (therefore, power distribution) (col. 6 ln. 53-56; col. 12 ln. 9-10) connected to a transponder (col. 3 ln. 8-10; col. 7 ln. 17-34; fig. 5) that transmits RF activation signals in the form of a tone modulated onto a carrier (wave); information packet signals are transmitted at pseudorandom (unique for each meter) frequency bandwidth as a Manchester encoded (string) bit stream (mapping: col. 3 ln. 20-25) including an instrument identification field corresponding to each meter (assigning: col. 3 ln. 48-51). A transmitter activator in a mobile node/vehicle transmits polling signals (as find command) to the transponders connected to the meters as the transponders send information packets back to the

activator in their respective frequencies and bandwidths (col. 5 ln. 3-33 & 59-60; fig. 1). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the mapping and assigning of unique ID and indication of receiving signals in the receiving bandwidth of **Grindahl et al** to the substations of **Ouellette** to ensure valid transmissions and encoded data represents, as received, the correct meter reading.

Claims **2** and **6** are rejected under 35 U.S.C. 103(a) as being unpatentable over **Ouellette** (U.S Pat 5,495,239) in view of **Grindahl et al** (U.S Pat 4,799,059) and in further view of **Ardalan et al** (U.S Pat 6,900,737 B1).

Consider claim **2**, and as applied to claim **1**, **Ouellette** discloses the claimed invention including transmitting packet with a unique I.D and an assigned frequency bandwidth to the endpoint transceiver. However, **Ouellette**, as modified by **Grindahl et al**, may not have explicitly mentioned determining whether the substation stopped receiving a signal; and the substation retransmitting the find endpoint packet. **Ardalan et al** disclose a gateway portion for a power meter reading system (as substation) retransmit SMS packets to meters (endpoints) if no responses are received from the meters, and therefore, the gateway sends out SMS (find) packets until a response is received (col. 2 ln. 11-14; col. 5 ln. 61-66; col. 6 ln. 13-17). It would have been obvious to one of ordinary skill in the art to incorporate the teachings of retransmitting a “find endpoint” packet as taught by **Ardalan et al**, in the system of **Ouellette** and **Grindahl et al**, for acknowledgement purpose. The system of **Ardalan et al** also disclose the ability to schedule times when the meters will be active and respond to SMS packets (col. 2 ln. 16-17); therefore, it is obvious to recognize the ability to determine whether a substation stops receiving

signals from the endpoints as taught by **Ardalan et al**, in the system of **Ouellette and Grindahl et al**, for avoiding signal collision.

Consider claim 6, and as applied to claim 2, **Ouellette**, as modified by **Grindahl et al** and **Ardalan et al**, discloses a mobile node (at a second location) with microprocessor circuit (fig. 2 item 24) may be coupled to a second transformer (second power distribution substation transceiver) at a second location according to the multiple transformers 12 shown in figure 1 (col. 5 ln. 16-24); wherein the mobile node portion through instructions of a system control center (control server) of the substation combination may communicate with a first or second power distribution substation/transformer (col. 5 ln. 7-24; claim 16). Since **Ouellette**'s mobile node portion can receive instructions from a system control center as explained above, it can instruct a first or second transceiver to map unique I.Ds of any endpoints/meters to a base frequency and bandwidth (col. 3 ln. 23-25; col. 9 ln. 1-5); transmit a "find endpoint" packet with the I.D for the endpoint/meter (col. 8 ln. 62-67); assigning status to a base frequency upon receiving signal from the endpoint/meter (translation of frequency signals) either the first or second substation transceiver (col. 8 ln. 2-8) and since the substation mobile node portion acts as a "passthrough" for any incoming metering devices frequency signals, it is indicating a receiving status in a frequency bandwidth (col. 7 ln. 27-39). Though **Ouellette** may not have explicitly mentioned during a communication loss between an endpoint and a first power distribution substation transceiver, it would have been obvious to one of ordinary skill in the art to recognize the ability to substitute a first substation transceiver's tasks during a communication loss by a second substation transceiver (one mobile node serving both transceivers) through an electrical load 14

other than a (failed) transformer 12 as long as the mobile node is in the power distribution system (col. 6 ln. 66-67; col. 7 ln. 1-3).

Claims 3 and 4 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Ouellette** (U.S Pat 5,495,239) in view of **Grindahl et al** (U.S Pat 4,799,059) and in further view of **Fischer** (U.S Pat 5,502,726).

Consider claims 3 and 4, and as applied to claims 1 and 3, **Ouellette**, as modified by **Grindahl et al**, discloses the claimed invention including the substation transceiver and the endpoint unique I.D. However, **Ouellette**, as modified by **Grindahl et al**, may not have explicitly mentioned the transceiver repeatedly transmit the “find endpoint” packet in a one minute predetermined interval until the transceiver receives a signal from the endpoint. **Fischer** discloses a (transmit/receive) station that retransmits any unacknowledged packets repeatedly in one-minute retry cycles until a session (reply) is successfully established (col. 37 ln. 24-36). It would have been obvious to one of ordinary skill in the art to incorporate the teachings of a transceiver repeatedly transmit a “find endpoint” packet in a one minute predetermined_intervals until the transceiver receives a signal from the endpoint as taught by **Fischer**, in the system of **Ouellette** and **Grindahl et al**, for acknowledgement purpose.

Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over **Ouellette** (U.S Pat 5,495,239) in view of **Fischer** (U.S Pat 5,502,726), **Grindahl et al** (U.S Pat 4,799,059) and in further view of **Sipola** (U.S Pub 2004/0105386 A1).

Consider claim 5, and as applied to claim 3, **Ouellette**, as modified by **Grindahl et al** and **Fischer**, discloses the claimed invention including the substation transceiver to repeatedly

transmit the “find endpoint” packet in a predetermined interval. However, **Ouellette**, as modified by **Grindahl et al** and **Fischer**, may not have explicitly mentioned the repeated transmission of packet being interrupted only by a prescheduled transmission of an alternative packet. **Sipola** discloses a scheduler that interrupts a current (may be a repeated flow) data packet flow due to another retransmission data packet flow with higher priority (therefore, prescheduled) described in paragraph 0056. It would have been obvious to one of ordinary skill in the art to incorporate the teachings of a repeated transmission of packet being interrupted only by a prescheduled transmission of an alternative packet as taught by **Sipola**, in the system of **Ouellette**, as modified by **Grindahl et al** and **Fischer**, for improving multi-flow transmission over a single resource.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

1. **Kline** et al, US 2008/0266134 A1: a signal is received from a first portion of a power line via a connection to the power line and at least a portion of the signal is converted to a non-electrically conducting signal as the non-electrically conducting signal may be communicated to a non-electrically conductive communication path

2. **Mogilner** et al, US 2006/0208661 A1: multiple channel ballast and network topology and system including power line carrier applications

Any response to this Office Action should be **faxed to 571.273.8300 or mailed to:**

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Hand-delivered responses should be brought to:

Customer Service Window
Randolph Building
401 Dulany Street
Alexandria, VA 22314

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Xavier Wong whose telephone number is 571.270.1780. The examiner can normally be reached on Monday through Friday 8 am - 5 pm (EST).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Seema Rao can be reached on 571.272.3174. The fax phone number for the organization where this application or proceeding is assigned is 571.273.8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR

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system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866.217.9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800.786.9199 (IN USA OR CANADA) or 571.272.1000.

/Xavier Szewai Wong/

x.s.w

24th December 2008

/Kevin C. Harper/

Primary Examiner, Art Unit 2416